

**WHAT IS CLAIMED IS:**

1. A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a first video signal constituting a primary image;

receiving a second video signal constituting a secondary image;

combining the first and second video signals to form a broadcast video signal

representing a composite of the primary and secondary images;

receiving a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image;

generating instructions to form an interactive television client application program which renders the specified portion of the composite image as a location for a sensitive area; and

outputting the instructions and the broadcast video signal for transmission to a customer location.

2. A method as recited in claim 1 comprising combining the instructions with the broadcast video signal and outputting the combined signal for transmission to a customer location.

3. A method as recited in claim 1 wherein the primary image comprises a moving video image.

4. A method as recited in claim 1 wherein the secondary image comprises a static video image.

5. A method as recited in claim 1 wherein the interactive television client application program includes instructions for causing a broadcast receiver to render the specified image portion as a first sensitive area to implement a desired interactive television operation.
6. A method as recited in claim 1 wherein the desired interactive television operation comprises displaying a supplemental screen.
7. A method as recited in claim 6 wherein the desired interactive television operation comprises displaying a plurality of supplemental screens containing catalog information.
8. A method as recited in claim 7 wherein the desired interactive television operation comprises receiving a viewer input to initiate a purchase transaction corresponding to at least a part of the catalog information.
9. A method as recited in claim 1 wherein the generated instructions cause a broadcast receiver to render the specified image portion as an initial display while the interactive television client application program is being loaded into a memory of a broadcast receiver, prior to rendering the specified image portion as a first sensitive area.

10. A method as recited in claim 1 wherein the secondary image comprises an interactive advertising area and the generated instructions cause a broadcast receiver to render the interactive advertising area as an initial display while the interactive television client application program is being loaded into a memory of a broadcast receiver, and the interactive television client application program subsequently renders the interactive advertising area as a second sensitive area.
11. A method for broadcasting an interactive television channel, comprising:  
receiving a video signal component over a first communications channel, the video signal component comprising a first video signal constituting a primary video image and a second video signal constituting a secondary video image combined to generate a composite image of the primary and secondary images, and  
receiving an instruction signal component comprising instructions to form an interactive television client application program which defines a specified portion of the composite image as a location for a sensitive area; and  
transmitting a broadcast signal over a second communications channel to a plurality of viewer locations, the broadcast signal including the video signal component and the instruction signal component.
12. A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:  
receiving a first video signal constituting a primary image;  
receiving a second video signal constituting a secondary image;

combining the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images;  
 receiving a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image;  
 generating instructions to form an interactive television client application program which renders a specified portion of the composite image as a location for a sensitive area and which generates a first screen containing the primary and secondary images and, in response to viewer input, generates a plurality of secondary screens including the secondary video image;  
 outputting the instructions and the broadcast video signal for transmission to a customer location.

13. A method as recited in claim 12 comprising combining the instructions with the broadcast video signal and outputting the combined signal for transmission to a customer location.

14. A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, including instructions for generating a sensitive area, and signals representing data for a virtual channel display;  
 processing the signals representing data and caching the data at the customer location;  
 processing the video signal at the viewer location to generate the image;

processing the interactive signal at the viewer location to generate a sensitive area on the image;  
receiving a viewer input selecting the sensitive area; and  
retrieving the cached data to generate a virtual channel video display which includes rendering the secondary portion visible.

15. A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including:

video signals representing an image comprising a primary portion and a secondary portion,  
instructions for generating at least first and second sensitive areas,  
signals representing data for at least first and second virtual channel displays;

processing the signals representing data and caching the data at the viewer location;  
processing the video signals at the viewer location to generate the image;  
executing the instructions at the viewer location to generate at least first and second sensitive area displays overlaid upon the image;  
receiving a viewer input selecting the first sensitive location;  
responding to selection of the first sensitive location by retrieving and processing cached data to generate a first virtual channel video display which includes rendering visible the secondary portion of the image;

receiving a viewer input selecting the second sensitive location;  
responding to selection of the second sensitive location by retrieving and processing  
cached data to generate a second virtual channel video display which includes  
rendering visible the secondary portion of the image.

16. A method for implementing an interactive television application at a viewer  
location, comprising:

receiving a composite signal at the viewer location over a communications channel,  
the composite signal including:

signals representing at least first and second  
enhanced video display screens, and  
signals including instructions for generating  
sensitive areas at specified locations on the first  
and second enhanced video display screens for  
receiving viewer purchase requests;

receiving viewer input specifying a first desired enhanced video display screen;  
processing the video signals at the viewer location to generate a video display of the  
first desired enhanced video display screen;  
processing the instructions at the viewer location to generate a first sensitive area  
display overlaid upon the video display at the specified screen location on the first  
desired enhanced video display screen;  
receiving a viewer input selecting the first sensitive area to request a first purchase;  
storing data specifying the first purchase request in a purchase buffer;  
receiving viewer input specifying a second desired enhanced video display screen;

processing the video signals at the viewer location to generate a video display of the second desired enhanced video display screen;

processing the instructions at the viewer location to generate a second sensitive area display overlaid upon the video display at the specified screen location on the second desired enhanced video display screen;

receiving a viewer input selecting the second sensitive area to request a second purchase;

storing data specifying the second purchase request in the purchase buffer;

responding to a viewer request by displaying data representing the first and second purchase requests stored in the purchase buffer;

displaying sensitive areas to receive one of a viewer request to cancel the first and second purchases and a viewer request to execute the first and second purchases; and

generating purchase request signals if a viewer request to execute the purchases is received.

17. A method for implementing an interactive television application at a viewer location, comprising:

receiving a first video signal constituting a primary image;

receiving a second video signal constituting a secondary image;

combining the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images;

receiving a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image;

generating instructions for causing a broadcast receiver to render the specified location of the secondary image within the composite image as a sensitive area to implement a desired interactive television operation;

combining the broadcast video signal and generated instructions to form a composite broadcast data stream;

transmitting the composite broadcast data stream to a viewer location;

receiving a third video signal constituting a secondary image;

combining the first and third video signals to form a second broadcast video signal representing a composite image which includes the primary and secondary images at the specified locations within the composite image;

defining the specified location of the secondary image within the composite image as a location for a sensitive area;

generating instructions for causing a broadcast receiver to render the specified location of the secondary image within the composite image as a sensitive area to implement a desired interactive television operation;

combining the second broadcast video signal and the generated instructions to form a second composite broadcast data stream; and

transmitting the second composite broadcast data stream to a viewer location.

18. A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a video signal constituting an image;

defining a first specified portion of the image as a location for a first sensitive area;



generating first instructions for causing a broadcast receiver to render the first specified image portion as a sensitive area to implement a first interactive television operation;

defining a second specified portion of the image as a location for a second sensitive area; and

generating second instructions for selectively causing a broadcast receiver to render the second specified image portion as a sensitive area to implement a second interactive television operation;

the first interactive television operation rendering the second sensitive area visible on a display screen and enabling the second instructions.

19. A method for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

receiving a first video signal constituting a primary image;

receiving a second video signal constituting a secondary image;

combining the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images;

outputting the broadcast video signal for transmission to a customer location

generating first instructions to form an interactive television client application

program which renders a specified portion of the composite image as a location for a sensitive area;

receiving an operator input calling for expansion of display of the primary image so as to cover at least a part of the secondary image at a viewer location;

responding to the operator input by generating second instructions in the interactive television client application program to display the primary signal in a full-frame mode at the viewer location;

outputting the first and second instructions to the viewer location.

20. A method as recited in claim 19 wherein the operator input includes a specific time for suppression of display of the secondary image at a viewer location.

21. A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, an interactive signal including instructions for generating a plurality of sensitive areas, and signals representing data for a virtual channel display;

processing the signals representing data and storing the data at the customer location;

processing the video signal at the viewer location to generate the image;

processing the interactive signal at the viewer location to generate a first sensitive area on the image;

receiving a viewer input selecting the first sensitive area;

retrieving the stored data to generate a virtual channel video display which includes rendering the secondary portion visible;

processing the interactive signal at the viewer location to generate a second sensitive area on the image to receive viewer input of a customer I.D. number;

receiving a viewer input in the second sensitive area to store a customer I.D. number; and

processing the interactive signal at the viewer location to initiate a purchase transaction using the customer I.D. number.

22. A method as recited in claim 21, wherein the instructions generating the sensitive areas include category information, the customer I.D. number includes a permission level, and the stage of processing the interactive signal at the viewer location to generate a second sensitive area on the image to receive viewer input of a customer I.D. number includes selectively executing a purchase transaction based on a comparison of the category information and the permission level.

23. A method for implementing an interactive television application at a viewer location, comprising:

receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image and an

interactive signal including instructions for generating a plurality of sensitive areas;

processing the video signal at the viewer location to generate the image;

processing the interactive signal at the viewer location to generate a first sensitive area on the image comprising an interactive ad display;

receiving a viewer input selecting the first sensitive area;

processing the interactive signal at the viewer location to generate a second

sensitive area on the image to receive viewer input of a customer I.D. number;

receiving a viewer input in a second sensitive area to store a customer I.D. number;  
and  
processing the interactive signal at the viewer location to initiate an interactive ad activity using the customer I.D. number.

24. A method as recited in claim 23, wherein the instructions generating the sensitive areas include category information, the customer I.D. number includes a permission level, and the stage of processing the interactive signal at the viewer location to generate a second sensitive area on the image to receive viewer input of a customer I.D. number includes selectively executing an interactive ad activity based on a comparison of the category information and the permission level.

25. A system for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

a video switcher which receives a first video signal constituting a primary image and a second video signal constituting a secondary image, combines the first and second video signals to form a broadcast video signal representing a composite of the primary and secondary images, and outputs the broadcast video signal for transmission to a customer location;

a content staging server which receives a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image; and

an interactive TV server component coupled to the content staging server which generates instructions to form an interactive television client application program to

render the specified portion of the composite image as a location for a sensitive area and outputs the instructions for transmission to a viewer location.

26. A set-top box for implementing an interactive television application at a viewer location, comprising:

an input terminal for receiving a composite signal at the viewer location over a communications channel, the composite signal including video signals representing an image comprising a primary portion and a secondary portion, including instructions for generating a sensitive area, and signals representing data for a virtual channel display;

a processor coupled to the input terminal for processing the signals representing data and caching the data and for processing the interactive signal at the viewer location to generate a sensitive area on the image;

an audio-video output circuit coupled to the input terminal to process the video signal and supply an audio-video output signal for output to a display device;

a remote control receiver circuit responsive to viewer inputs to highlight and select the sensitive area; and

the processor retrieving the cached data to generate a virtual channel video display which includes rendering the secondary portion visible.

27. A system for generating a datastream at a control location for implementing an interactive television application at a viewer location, comprising:

a video switcher which receives a first video signal constituting a primary image; and a second video signal constituting a secondary image, combines the first and

second video signals to form a broadcast video signal representing a composite of

the primary and secondary images, and outputs the broadcast video signal for transmission to a viewer location;

a content staging server which receives a specification of a predetermined location in at least one of the primary and secondary image as a specified portion of the composite image and which generates a command upon receipt of an operator input calling for expansion of display of the primary image so as to cover at least a part of the secondary image at a viewer location;

an interactive TV server component coupled to the content staging server which generates first instructions to form an interactive television client application program which renders a specified portion of the composite image as a location for a sensitive area and, in response to the command, generates second instructions in the interactive television client application program to display the primary signal in a full-frame mode at the viewer location, the interactive TV server component outputting the first and second instructions, signal for transmission to the viewer location.